



COLORADO SPRINGS,  
COLORADO

FEBRUARY 1990

PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.  
P.O. Box 16521  
Colorado Springs, CO 80935

FIRST CLASS MAIL



# Ø BEAT



## P.P.R.A.A. DIRECTORS

|              |  |          |
|--------------|--|----------|
| PRESIDENT    | Rick Kile WB7THT 4922 Crestwood Drive 80918    | 599-7665 |
| V. PRESIDENT | *David Banks NØION 7310 Sonrell Court 80919    | 260-1318 |
| SECRETARY    | *Al Vrooman NØCMW 1341 Diana Lane 80909        | 473-1660 |
| TREASURER    | *Rosie Calaway W4MMNL 616 North 31st Street    | 471-9965 |
| Board Member | Ron Deutsch NØKP 4305 Ridgeland Drive 80918    | 593-8352 |
| Board Member | Max Stafford KDØEL PO Box 35 Palmer Lake 80133 | 488-9289 |
| Board Member | *Lauren Libby KXØO 6166 Del Paz Drive 80918    | 593-9861 |
| Board Member | Floyd Bryant KB5FCN 4160 Douglas Drive 80840   | 472-1959 |

\* denotes the first year of a two-year term.

**ZERO BEAT** is published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Inc., P.O. Box 16521, Colorado Springs, Colorado 80935. Cost is \$04 per month for non-members or a \$6.00 per year subscription. Permission is given to reprint articles or excerpts provided credit is given. Deadline for submission of articles is the 21st of the month. Classifieds accepted anytime.

The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at 7:00 p.m. All amateurs and interested parties are invited to attend.

EDITOR: Ron Deutsch NØKP 4305 Ridgeland Drive Colorado Springs, Co. 80918 (719) 593-8352 or 145.01 (Packet)

## MESSAGE FROM THE PRESIDENT...

This month I have good news and bad news about the swapfest. The good news is that OEM Parts will be there again. They have supported us for the past several years and have an excellent selection of parts in stock. The bad news is that Amateur Electronic Supply in Las Vegas has decided against attending, citing the travel distance and workload as reasons. I guess you can't win them all.

ICOM has been in contact again, requesting information about the swapfest so they can finalize their plans. Not much else on the swapfest this month. At the last club meeting there was some interest expressed about club jackets. Up until recently, the club logo was on file at The Shirt Stop at 2351 E. Platte Place. A call to the owner revealed that someone removed the club logo from his store just prior to the Colorado State Games last summer. He is interested in continuing the relationship he has had with the club for many years. If anyone has any information on who might be in possession of the club logo please give me a call at 654-3341 (w) or 599-7665 (h).

I got a call from a ham wanting to know where in Colorado he could send his QSL cards to apply for a Worked All States award. A call to Jake, NØCYR, produced the following answer: send your cards to Dean B. Haworth, ACØS, 14388 West Bayaud Avenue, Golden CO, 80401. Postage is \$1.25 each way and don't forget to include a stamped self-addressed return envelope. Jake says you also need form MCS-217. The current version of the form is dated 12-87.

At the January board meeting there was quite a bit of discussion about the mass mailing we are going to do this spring to publicize the swapfest. Adding to the debate was Ron's (NØKP) announcement that he will be out of town on business during the first part of May at the time when he would normally put out the May newsletter. The long and short of it all is that we decided to combine the April and May editions of the newsletter for mailing in late April. This will reduce costs in terms of both printing and postage and eliminate the need for training a substitute editor to take over for Ron during his absence. If you have any questions or comments to this plan give a call.

That's about all the gossip I have for this month. The program for next month's club meeting features the folks from High Energy Enterprises. It should be a lot of fun. Thanks for the support you've given the club in the past few months. It shows in the increased meeting attendance, new memberships and in in calls about amateur radio in general. Hope to see you soon.

73's...Rick

## CLUB MEETING NOTICE

Next PPRAA meeting will be on February 14th 7pm, at the Elk's Club on North Nevada. Program will be presented by High Energy Enterprises.  
C. U. Threll

## **GENERAL MEETING**

### **JANUARY 10, 1990 ELKS CLUB**

Meeting was called to order by President, Rick WB7THT at 1800 hours by introduction of members and their gripe about the club.

The Minutes were approved as printed in OBEAT.  
Treasurer report:

Previous balance \$2130.66

Income \$755.00

Expenses \$1823.63

Bal \$1261.93

The sign in log showed only 44 members and guest present.

#### **COMMITTEE REPORTS:**

RFI: JEFF NOLH 681-6436 nothing to report.

EDUCATION: BUD NODDF 476-0637 next novice class in April.

D&B SCHOOL: BUD NOAA 889-2963 have 15 students, will be reworking ten meter ant in near future.

ARES: MIKE KOTER 836-1280 JOHN NOKIC reported they were in need of a severe weather net manager.

PUBLIC SERVICE: MIKE KOTER state games will be coming up again and Walk for mankind will be in April.

CCARC: OAK KOROL 570-7782 Nothing to report.

V.E.: MAX KDOEL 486-6269 next VE test March 10th at Chapman College. Preregistration required cost \$4.95.

OBEAT: RON NKOP 893-8352 Thanks for everyone who contributes to OBEAT, apology for missing article on T HUNT.

SWAMPFEST: RICK WB7THT 689-7905 Will start issuing tickets that now we have raffle license and grand prize ICOM 735. We need a ticket manager.

#### **OLD BUSINESS:**

Nothing

#### **NEW BUSINESS:**

BDALE N3EUA new rocky mountain packet President, he needs help.

DAVE NDON: If anyone knows of someone losing a 2mtr ht contact him also Red Cross in Denver got all missing gear back.

Next board meeting Thursday January 19th at QTH of Floyd KB5FCN, 4180 Douglas Dr. Air Force Academy.

We had a short intermission then monthly prizes as follows:

WB7YO CHARLIE book,  
KAOITX RALPH intercom  
KB5FCN RUS meal Village Inn.  
WDATDOO Book POWER  
KA7NNX SUSAN Tool box  
KEOW ROXIE Book world radio

BEST ARTICLE IN OBEAT won by BOB WITTE KB0CY "Why Don't I Measure 50 Ohms Across My Coax?".

HOME BREW had the following entries:

RON NKOP Field strength meter,  
MALCOM KESS Tone alert for severe weather,  
BDALE N3EUA 10 GHz packet dish and tx,  
BILL WROY Doppler direction finder,  
JAKE NOCYR 1932 SPARK Gap transmitter,  
RICK WB7THT 432 mhz antenna,  
LAUREN KOXOO six meter amplifier

Prize winners were as follows:

1ST PRIZE JAKE NOCYR spark gap transmitter  
2nd Prize BILL WROY Doppler direction finder  
3rd Prize LAUREN KOXOO 6 meter amp

Meeting adjourned at 2035

submitted by Al N0CMW SEC.

## **ACADEMY RADIO CLUB**

The Academy Radio Club held its monthly meeting on January 9th at 11:30 in the Tee House on the Eisenhower golf course.

The following members were present:

Doug N0HUT  
Ron NKOP  
Oak KOROL  
Floyd KB5FCN  
Bud NODDF

The club welcomes new member Ralph, N4MKJ. Ralph is retired AF and moved here from Fort Lauderdale, FL.

The club Treasury stands at \$118.00  
Next meeting will be on February 13th.

Submitted by Ron, NKOP-Sec/Treas.

## BACK TO THE DIPOLE

### (Elementary Tutorial)

by WORW

The recent proliferation of Gamma Quad Hula Hoop trap antennas and other similar exotica make you wonder if you can ever get on low bands. You might also think that you need a KW with a Tribander on a one hundred foot tower to work DX on 20 meters—not so. You can use a simple Dipole (which is easily hidden in a tree for covenant camo) to work DX.

The main idea behind antennas is to provide a good impedance match between your transmitter (50 ohms) and the ether (377 ohms). That's what an antenna is for! (Nobody is really sure what part the ether plays in this business). A Dipole does this very efficiently.

Figure 1 is a sketch of an all band Dipole with dimensions shown for bands from 10 to 40 meters. 80 and 160 meters are simply extensions to this system. The antenna is constructed out of copper clad steel wire (stranded) so that it won't stretch-out and detune. It uses a center balun (1:1) to give a 50 ohm balanced (antenna) to 50 ohm unbalanced (feedline) transformation. It can be fed with RG-8U or RG-58U. Long runs or high power should use RG-8U.

The balun keeps your coax from radiating and provides a nice D.C. static drain to protect your receiver from static discharges. My RG-8U has a lightning arrester on it and the outer braid is directly connected to a 8 foot ground rod. This Dipole must be raised/lowered with ropes and pulleys, so that the various jumpers may be changed at ground level.

The jumpers that I use are just the pigtails of the left over wire from the inner antenna. There is only one alligator clip per jumper. The gator clip and other end of the jumper are soldered to avoid poor mechanical connections and extra inductance, see Figure 2. I am still using alligator clips that are one year old but they may have to be replaced in another year. They are typically at the voltage points so good high current connections are not required.

The antenna dimensions will vary slightly because of the height above ground, surrounding metallic objects and ground conductivity. After tuning the antenna from 10 meters down to 40 meters, you will have to go back and retune it

because of end effect interactions but once it is tuned you can forget it. If the antenna is slightly off resonance from your desired operating frequency, you can tune it with an antenna tuner, but you won't work much DX when your antenna tuner is in line.

Another trick you can try is the use of short clip leads to temporarily operate on MARS or experimental frequencies. A short piece of wire (of the appropriate length) can be clipped on to each end of the Dipole section just above the desired operating frequency. (e.g.: If you want to work 13.7 mhz, you just hang about a 8 inch clip lead to each end of the 14 mhz dipole and you are ready to go. The reflected power at the center frequency should be less than 3%.

My Dipole is between a 30 foot tree and a 20 foot pole out in the backyard. It has a 20 pound weight on one end to allow for tree sway. I have worked up (from 100) to over 200 countries with this Dipole on 10, 15, and 20 (SSB and CW) using only 100 watts in this past year.

The band conditions won't always be as good as they are right now, so get on the air even if you have to put your antenna in the attic. The Big Boys will still have up to 20 db gain over the 100 watt Dipole set up, but that's only about 3 "x" units. So go for it, there's still plenty of DX within range.

A few weeks ago I heard a "T77" (that's not an airplane) in San Marino on 10 meters, I ran outside changed the clip leads, quickly came in and gave him a call. I called five or six times and a pile-up was starting to develop, I slid up frequency 1 khz and finally snagged him! Later, when I went back outside, I found that I had forgotten to pull the antenna back up. The center of the Dipole was 3 feet off the ground. It was severely detuned being that close to the ground, I was amazed.

*You have to remember to pull the antenna back up after changing it.*

God Bless, watch out for slim & 73s,

**WORW (Really Works)**

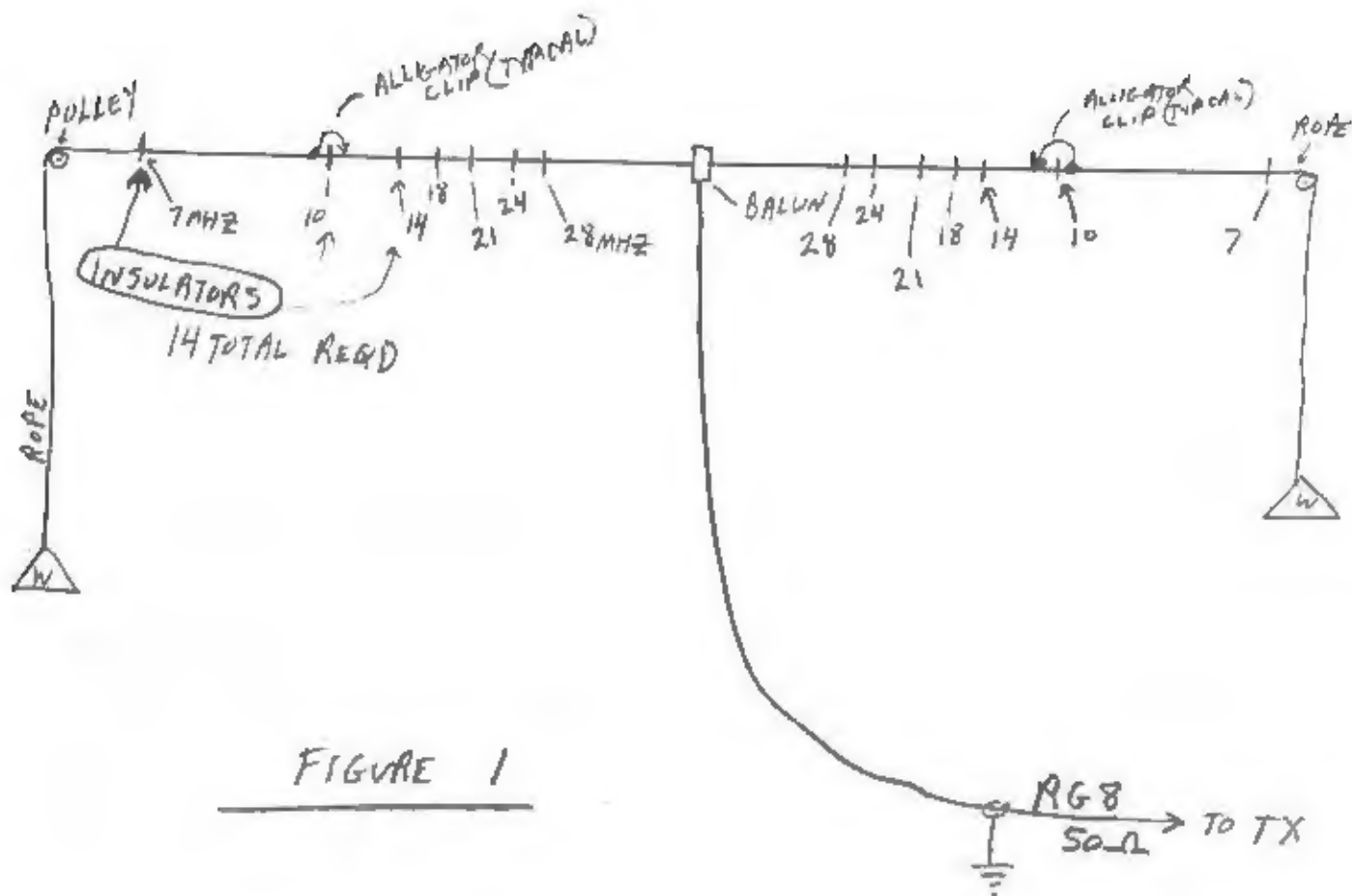
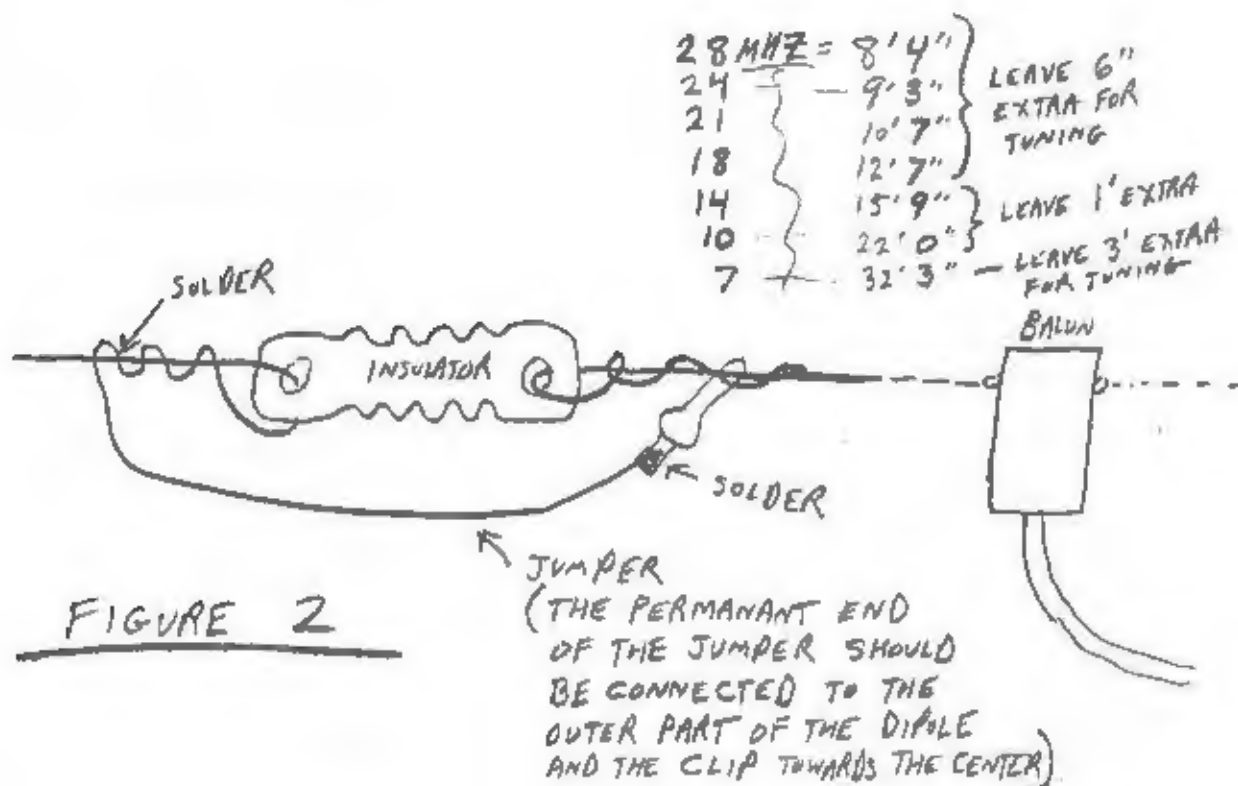


FIGURE 1



# VIEW FROM CANADA

de VE3PDD or NY0T

This article comes directly from the keyboard of Ron NK0P's computer. It seems that while I was on vacation in the Colorado area to do some skiing, he pressured(!) me into writing an article.

This time I have decided to write about the new licensing scheme that will be shortly introduced in Canada. Currently there are three classes of licenses in Canada and they are as follows:

**AMATEUR:** Requires knowledge of electronics and radio theory, international regulations and the ability to send and receive morse code at a speed of 10 wpm. Privileges include only CW operation on the HF bands with voice on 50 Mhz and above.

**ADVANCED AMATEUR:** Requires an advanced understanding of radio theory, in particular voice modulation techniques. In addition, one must be able to send and receive morse code at a speed of 15 wpm. Privileges include voice, RTTY and advanced modes of operation on selected portions of the HF bands in addition to the privileges permitted the AMATEUR operator.

**DIGITAL:** This was Canada's first attempt at a no-code and it flopped. This was primarily due to the degree of difficulty of the written exam. It required an indepth understanding of digital communications theory. Privileges would include voice and digital operation on the VHF and above bands.

There is no way of telling what class of license that a person holds without having a very current copy of the Amateur Radio Callbook.

The Department of Communications (the Canadian equivalent of the FCC) was becoming quite concerned that the average age of the amateur community was in the mid fifties and that something must be done to encourage the younger member of the Canadian populace into obtaining their amateur radio certificates. After some study they became convinced that the biggest perceived hindrance was the morse code requirement (not to mention that the Digital licence did not bring in the numbers of new amateurs that they anticipated).

Hence, the DOC decided to restructure the amateur radio service into four classes of licenses, one of which would be a no-code entry level license. The licenses are simply called the A, B, C & D class certificates. The licenses are broken down as follows:

**'A' CLASS** This is the no-code license that will require a comprehensive understanding electronics and radio theory along with international regulations. Privileges will include operation of VHF and above bands with a max power of 250 watts.

**'B' CLASS** Much like the 'A' class, but morse code at a speed of 5 wpm will be required. Privileges will allow operation on the HF bands with a max power of 250 watts with CW only.

**'C' CLASS** The holder of this class of license will be allowed voice, CW and advanced modes of operation on the HF bands. Max power will still be 250 watts. Morse code will sent and received at a speed of 13 wpm.

**'D' CLASS** The holder of this certificate will be allowed to operate as a trustee of a repeater station, be permitted up to 1000 watts of power and be permitted to homebrew their own equipment. It is anticipated that there will not be many people attempting to go obtain this level of license

Now how do we transition from one licensing scheme to another? The DOC has come up with a plan that would see all Amateur and Advance Amateurs certificate holders given the privilege of D Class operating privileges up front. Digital operators would have to start at the bottom of the pile.

The new licensing policy should come into operation in the the 1 April timeframe. There have been no plans to modify the callign structure to match the level of license that the person has.

This new licensing structure has not been accepted with total support from the amateur radio community. This is primarily due to that fact that all current amateur operators had to pass some sort of a code test and it is their feeling that all new incumbents should do likewise. Reality is setting in however, and most of the hardliners are starting to loosen their grip on their stance as they realize that their hobby will die if there is not an influx of new blood (not necessarily young) into the hobby.

Cheers for now and will see you in next months copy of O-Beat.

Keith NY0T  
73 de VE3PDD (temp portable W0)



## A. R. E. S. WEATHER UPDATE

*John Chapman, N0KIC*

On January 24th, Dave N0ION, Mike K0TER, and myself, had a short meeting with J. M. Looney, temporary manager for the Colorado Springs Weather Service. It will be business as usual for the Amateur Radio Weather Spotters. Mr. Looney and assistants will be at the March 14th PPRAA meeting for the first training/information session of the year.

We do need someone to take over the job of Severe Weather Operations Manager. This person does not need to run every net, just be interface between the Weather Service and Amateur Radio. The Net Control function can be shared among trained operators.

There is NO 2 meter transceiver at the weather station at this time. Unless we come up with one to dedicate to this function, any operator going out to the Weather Station must have the necessary coax pigtail and an HT to operate with. The Weather Service people really appreciate having the transceiver to LISTEN to during that period of time before an operator can get there.

## INFORMATION/SIGN-UP

The A.R.E.S. information/sign-up forms are ready and will be given to all interested Amateurs by all means possible. Copies of the form can be downloaded from KA0WIE BBS (145.09) and W0CBLV landline BBS (360-6316). A.R.E.S. ID cards will be returned ASAP. (ID pictures still have to be made.)

A.R.E.S. HF net on Sundays at 0600 MST, 3636 K9IZ

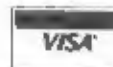
Eastern Colorado net is on Sundays at 0830 MST on 146.34/34.

District 14 (that's us) net on Tuesdays at 1900 MST on 146.37/37.

District 14 Emergency Coordinator is Mike, K0TER 636-1280 and 146.09 packet.

El Paso County Assistant EC is John, N0KIC 635-1804.

Teller County Assistant EC is Bud, N0AA 669-2993.



## *Colorado Springs Wintronic Company*

2838 N. PROSPECT, COLORADO SPRINGS, CO 80907

PHONE — (303) 636-1661

**WHOLESALE DISTRIBUTORS OF ELECTRONIC  
PARTS, SUPPLIES AND EQUIPMENT**

BUTTERNUT  
HUSTLER  
CUSHCRAFT  
LARSEN  
ANTENNA SPEC.  
UNIDEN

WELLER  
FLUKE  
BELDEN  
AMPHENOL  
MFJ  
B & W

ARRL BOOKS  
SAMS BOOKS  
TRIPP LITE (power supplies)  
VAN GORDEN  
BENCHER

## **MILEY'S RADIO**

Jess K0TAA 719 W. 7th St.  
Florence, Colorado 81226  
(719) 784-3040

*Lower Overhead ..... Lower Prices*

All Brands of New, Lots of  
Used + Consignment Ham Equipment

We trade and give you top trade-in prices

Consignment fee 10% - 13% on  
equipment sold in Colorado

Store Hours:  
Closed Mondays  
Tuesday thru Friday 8:30 AM - 6:00 PM  
Saturday until 1:00 PM.

Evening Hours: 7:15 - 9:30 by  
appointment only

Phone is off-hook 6:00 - 7:15 PM.

## BOARD MEETING

JANUARY 18, 1990

Meeting was held at QTH of Floyd, KB5FCN. Members present were FLOYD KB5FCN, RUSS KB0FNM, DAVE NQ1ON, LAUREN KX00, AL N0CMW, RON NK0P, ROSIE WA0MNL, RICK WB7THT, FAYLENE KB5FTN.

Board discussed delinquent advertisers, it was decided they have 30 days to pay or their ad will be out in March.

Bylaws were reprinted by Dave, NQ1ON. Board will look them over for typos, and then will make them available to members for cost of reproduction.

FLOYD KB5FCN will work with the Academy Radio Club for a date in August for the annual picnic, and also for reservation of the picnic area for field day last full weekend in June. The picnic will be a combined picnic of various clubs and guests, same as last year.

Max, KD0EL was authorized to spend up to \$100.00 for 3 sections of tower for another tower for field day, so both HF stations can work with beams. Max KD0EL volunteered to head up field day.

Dave, NQ1ON is still looking into the acquisition of the severe weather coax and antenna.

ARES is in need of a severe weather net manager.

Dave also will try to trace a letter from the PPFM Association to our club on building a repeater for public service.

It was decided since we are putting out a mass mailing to all 808 and 809 zip areas for swapfest information to put out a combined April and May issue sometime around 1st of May.

Rick reported the grand prize, an ICOM 735, was in and the raffle license was received from the state. A valid contract with Rustic Hills Mall has been secured. 2500 tickets will be printed for swapfest May 18.

It was brought up that next meeting will be Valentine's day so bring your sweetheart to meeting.

High Energy will put on a program at our February meeting it will be on the subject of Tesla.

Next board meeting will be at QTH of Ron NK0P.

Meeting adjourned at 2103.

Note! We had every board member present on a snowy night even if half had to change vehicles to make it.

Submitted by AL N0CMW SEC PPRAA.

## "How Things Change Over The Year"

submitted by KE9S

As I was reviewing the March 1989 issue of "WORLD RADIO", I ran across a table that listed the Amateur Radio population in October & September of 1988. I look at the same column in the current issue of WORLD RADIO and the same table was in this issue for the months of October & September of 1989.

I remembered a comment in the January 1989 issue of O-BEAT in the column "THE VIEW FROM THE PEAK" in regards to "NO CODE LICENCING". The article said "As you should know, amateurs are steadily declining in numbers despite recent attempts to encourage growth."

This is what the numbers show:

|            | Oct 88 | Oct 89 | #Change | %Change |
|------------|--------|--------|---------|---------|
| EXTRA      | 46413  | 49883  | 3470    | 7.5%    |
| ADVANCED   | 96386  | 101725 | 5339    | 5.4%    |
| GENERAL    | 112954 | 116797 | 3843    | 3.4%    |
| TECHNICIAN | 100176 | 113786 | 13610   | 13.6%   |
| NOVICE     | 79034  | 84780  | 5746    | 7.3%    |
| TOTAL      | 436963 | 468971 | 32008   | 8.9%    |
|            |        |        |         | GROWTH  |

It looks to me that our numbers are increasing instead of declining.

73's Malcolm

## TRANSMITTER HUNTING

By Bill Pterigo WR0Y

December's T-Hunt was run by Ken Wyatt, WA6TTY and Bob Morrow, WB6GTM. They used an IC-38AT in cross-band repeater mode to repeat a 70 cm. signal on 148.550 MHz. The H.T. was hidden in a small metal box with its antenna inside a PVC pipe with a sprinkler head on it. Hunters got within 20 feet of the transmitter in about 45 min., but took another half hour to find it.

January's hunt was canceled due to hazardous driving conditions.

February's hunt will be held on Saturday the 17th, starting at 12:00 noon from the Colorado Springs East Library. Everyone is invited to participate. The hunters from the last few hunts have suggested the following rules for future hunts. Please relate any questions or comments to Bill, WR0Y, at (719) 568-6778.



# DITS AND BITS

## FOR SALE:

Smith Corona Model XD6500 Electronic Typewriter. 7K memory, Digital Display, Delay Wheel. RS 232-C serial or Centronics parallel connector for use as a printer for computer or packet radio. Like new, with manual. \$99.95  
Oak, KOPOL, 670-7782

## FOR SALE:

Apple II plus computer with one disc drive and color TV modulator. \$200.00  
Regency M100 Scanner \$100.00  
Tosnet node controller (2-1200 baud ports, and 1-9600 baud port-RS 232 port) \$300.00  
Malcolm KESS

## FOR SALE:

Cmdr 128 setup. \$800.00, Cmdr 128, Cmdr 2002 RGB monitor, 2-1571 disc drives, cmdr 1200 Baud modem, manuals, and some software, CPM users guide. All above with packet controller \$650.00 AJ, NOCMW 473-1660.

## FOR SALE:

Mosley TA-33 Senior, Tri-Band Beam. \$250.00  
Alliance HD-73 Rotor...\$100.00  
Rohn 28G Tower 44 Ft. w/rotor plate and house bracket. \$300.00  
Cushcraft A-147-22 (22 element array for 2 meters. \$100.00  
MFJ 941D Antenna Tuner \$75.00  
Dick WBCDUL 676-0232

## FOR SALE:

Drake MN-2000 Tuner \$150.00  
Heath Digital Barometer \$150  
Heath Digital Humidity sensors \$50.00  
All three for \$300.00  
Ron NKOP 523-8352

## FOR SALE:

Metron MA1000B HF Mobile Amp  
Heath IO-4525 25 Mhz Scope  
Yaesu FT 107M HF Transceiver  
Yaesu FC-107 Antenna Tuner  
Ron Lord 282-1735

(For Sale or Want Ads will be taken on a space available basis from club members. Others are \$2.00 for 25 words or less and must be Ham related items. Send ads to the editor or to club PO Box.)

## 1934 Official

## SHORT WAVE RADIO MANUAL

edited by Hugo Gernsback  
Build simple, high performance old time shortwave radios!! You can—all of the secrets are here: the circuit diagrams, parts layout, coil specifications, construction details, operation hints and much more. A classic for experimenters, shortwave listeners, ham radio operators, old time radio collectors and just about anyone interested in old-time radios. Even if you never get to build one of these radios, you're sure to get hours of enjoyable reading out of this book. 8 1/2 x 11 Paperback, 260 pages. ISBN 0-917914-64-3



330014 • Shortwave Radio Manual ..... 15.45

Order yours today from :

HIGH ENERGY ENTERPRISES  
PO Box 5636  
Security, CO 80931  
392-6404

Home of EXTRAORDINARY SCIENCE!!!

## Centennial Electronics

Distributor



- TUBES
- Capacitors
- Solder Aids
- Test Equipment
- Tools
- VCR/Stereo Accessories

"Hard to Find Batteries and Tubes"

Ham & Senior Discount  
Wholesale - Retail

Hours: 8:30—1 Sat. / 8:30—5:30 Mon.—Fri.

2324 E. Bijou  
Colorado Springs, CO 80909  
633-4666

# "THE VIEW FROM THE PEAK"

George Hinds, N6CIX

You may recall that I reported to you in the January issue of OBEAT about "WHEN THE GRINCH STOLE CHRISTMAS" — that was what happened to the Denver Radio Club when a Christmas Day thief ripped off four pieces of equipment from the Club, effectively silencing, at least for the short term, Amateur Radio Station W0TX located at the Red Cross office in Denver. A window was broken in the night to enter the club's headquarters; three transceivers plus a fourth piece of equipment were removed by the crook. Value was placed at \$5,000.

Well, there is now more to report. Unless you, like I, are a regular reader of the Denver Post, you likely did not see the follow-up story.

The good news: all the stolen ham gear was recovered! On Thursday, January 4th, responding to an alarm in the early morning hours, Adams County Deputy Sheriff Rick Jackson found a man at the Colorado Comm Center amateur radio store on 70th Street just east of I-70. Claiming to be an employee, the man turned and re-entered the building with Deputy Jackson following. Once inside the door, the self-described "employee" turned and fired at the deputy twice. One bullet failed to completely penetrate the heavy leather belt of the lawman; the other spent itself in his bullet-proof vest.

Jackson ducked behind a car outside the store and returned the fire; the robber fell wounded and was pronounced dead on arrival at the hospital.

Denver police in cooperation with Adams County went to and searched the home of the robber — inside they found all of the amateur radio equipment he had apparently taken in the Christmas Day burglary of the Denver Radio Club room at the Red Cross building...

## DO YOU REMEMBER?

The very first 2-meter rig you put on the air? And when it was? If your experience was anything like mine, you'll never forget it... I said the same thing about that rig that I did upon returning to the States after serving in Europe during World War 2 — I wouldn't take a million dollars for the experien-

ce, but I wouldn't do it again for a million dollars. The same description applied to the General Electric Progress Line transceiver that was converted to amateur service and which I installed in my car about 1971. It was some experience — but when you've said that, you've said it all...

Our club repeater receiver at that time had a discriminator circuit with a meter at the site to read out the frequency of the incoming signal. It also had a devilish device incorporated that turned out to be my nemesis — a switch to shut down the repeater transmitter if your transmitter happened to be more than 750 cycles off either side of dead center frequency! Such a diabolical device to turn loose on us users... The club officers were mostly two-way radio technicians and they wanted that repeater to be the best audio available at any cost to us users; no off-frequency distorted audio on a LEAPA repeater, by gosh.

Well, I bought the best crystals available for 1976 from International. I had the use of commercial-grade two-way radio service equipment when setting up the radio and made sure the .16 transmit xtal was right "on frequency". And it was, too — until I drove out the drive and got a few blocks down the road. By that time, the temperature inside the case had changed, the xtal had wandered off more than 750 cycles, and I was effectively shut out of using the repeater! Xtal ovens were not a part of that converted rig! The most I could do was get a few words in, then "click" and I was silenced. "Where'd you go to, George?" and "I suggest you get your rig put on frequency, George" was what I most often heard. I could set it dead on, drive for 5 minutes, and be shut out of the repeater until I could return and set that transmitter on frequency again — and again. I was out of the repeater so often the guys got in the habit of listening for me on .52, because that was where I usually ended up at in hopes of finishing what I had started to say on the repeater.

Well, suffice it to say the pressure kept growing on me to do something about my rig — and I did, too. Soon I invested in one of the first Japanese "riceboxes" to come along; a crystal-controlled 6-channel loom rig with 10 watts output that I found advertised in the old "FM Magazine". I can't recall the price, but probably about \$300. Equipping it with precision xtals, my troubles were over and at last I got to really carry on a complete conversation on the repeater. It's no wonder I've been fond of loom gear ever since...

73, George N6CIX

# PPRAA TRANSMITTER HUNT

## RULES

REV 1/90

**DATE:** On a Saturday following the club meeting (2nd Wednesday) scheduled to avoid conflict with other ham events.

**TIME:** 12:00 noon.

**FREQUENCY:** To be announced prior to event if other than 2 meters.

**STARTING POINT:** Colorado Springs East Library (on Union north east of academy).

**BOUNDARY:** Within a 7 mile radius of the starting point.

1. Signal must be copyable at the starting point with a loop antenna.

2. The transmitter should transmit at least 15 Sec. during any 60 Sec. interval. The signal shall be vertically polarized, have negligible AM component, and remain constant in power throughout the hunt, unless an announcement is made stating the change in power.

3. The antenna should be within 1000 feet of access by standard passenger car. It must be in a location accessible to the public with no charge for admission.

4. The winner of the hunt will be determined by the huntmaster.

5. The next huntmaster will be determined by the huntmaster. This may be the winner, or someone who hasn't hidden recently. The person chosen may delegate his responsibility to hide to someone else.

6. The huntmaster shall establish a means for the hunters to communicate with him, either on a repeater, or on the hunt frequency.

7. The huntmaster shall determine when the hunt is over, or when clues are necessary. Any clues given must be repeated on request.

8. Any and all rules may be modified by the huntmaster by announcing the modifications prior to the day of the hunt.

9. Any and all rules may be permanently changed by a majority vote of those participating in at least one of the last three hunts.

Bill, WROY

# OEM PARTS

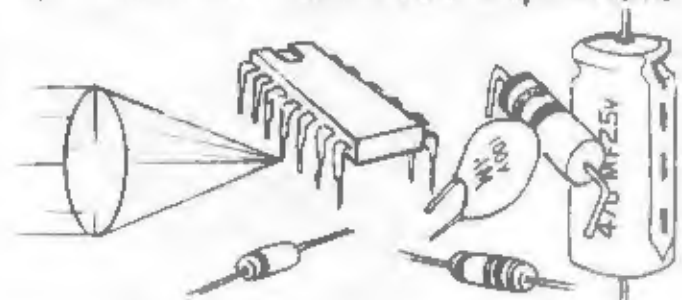
INC.

—QUALITY—

Optical — Electronic — Mechanical Parts  
Buy — Sell — Trade — New & Used Surplus Items

3031 North Nevada Ave  
Colorado Springs, CO 80907  
303-635-0771/635-0772

Optical - Electronical - Mechanical Parts  
Buy - - Sell - Trade - New & Used Surplus Items



SEE SKIP OR ED



CW Electronic Sales Company

Rocky Mountain Area's  
Largest Distributor of  
**HAM GEAR**

**SPECIAL  
LARSON ANTENNAS  
AND  
SHORT WAVE RADIOS**



**YAESU**



ICOM  
PART IN COMMUNICATIONS

**KENWOOD**

JOHN  
WA0ADV

GEORGE  
KD0RW

AL  
N0CMW

DOUG  
W2CRS

800 Lincoln Street  
Denver, CO 80203  
(303) 832-1111

610 E. Fillmore St.  
Colorado Springs, CO 80907  
(719) 473-2828



## 1990 SWAPFESTS

**ARC** February 18th at the Jefferson County Fairgrounds. 9am to 3pm

**Larofest** Boulder County Fairgrounds Saturday April 7, 1990.

**PPRAA** Saturday May 18, 1990 at Rustic Hills Mall. Tables \$10 advance. Contact Ron NKOP at 593-5352 eve and weekends. **FREE ADMISSION!**

**Bardfest 90** Sunday September 23, 1990.

**NOTE:** If you know of any Colorado Swapfests not listed here or more information on those listed contact the editor and I will include them in the next issue.

## FCC ISSUED CALL SIGN UPDATE

The following is a list of most recently issued FCC call signs (December 1).

| District | Group A<br>Extra | Group B<br>Advanced | Group C<br>Tech/Gen | Group D<br>Novice |
|----------|------------------|---------------------|---------------------|-------------------|
| 0        | WY0H             | KF0GP               | N0LGU               | KB0FLF            |
| 1        | NZ1W             | KC1RO               | N1HDM               | KA1USB            |
| 2        | WU2S             | KE2QQ               | N2KCM               | KB2IVC            |
| 3        | NX3L             | KD3OE               | N3HOY               | KA3VJU            |
| 4        | AB4RY            | KN4BN               | N4XMC               | KC4NHA            |
| 5        | AA5PA            | KI5AB               | N5POH               | KB5LBH            |
| 6        | AA6SJ            | KK6CO               | N6XBF               | KC6HED            |
| 7        | AA7CP            | KF7YN               | N7NFX               | KB7IZJ            |
| 8        | WX8O             | KF8CO               | N8LOU               | KB8ILU            |
| 9        | WM9T             | KE9TG               | N9JCB               | KB9DPW            |
| Guam     | KH2L             | AH2CF               | KH2EH               | WH2AMI            |
| Hawaii   | ---              | AH6KC               | NH6VG               | WH6CGF            |
| Alaska   | ---              | AL7LP               | NL7TA               | WL7BVY            |
| USVI     | NP2F             | KP2BR               | NP2DN               | WP2AGZ            |
| P.R.     | ---              | KP4QJ               | WP4XD               | WP4IPO            |

--- indicates that all 2 x 1 call signs have been assigned in those areas.

## Membership Application PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.

P.O. Box 16521  
Colorado Springs, CO 80935

Date \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Call \_\_\_\_\_ License Class \_\_\_\_\_

Are You An ARRL Member? ☐ Yes ☐ No

Telephone \_\_\_\_\_

☐ Full Member \$12.00

☐ Family Membership \$15.00

☐ Newsletter Only \$6.00

☐ Age 65 or older, or under 18 \$8.00

Additional Names \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_

Associate Member \$8.00

☐ (Outside Teller & El Paso Counties.)

PPRAA is not associated with the Pikes Peak FM Association.